The Ameliorative Role of Grape Seed Oil on Irradiated Rat Fungiform Papillae

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Abstract

This study was held to clarify changes in the epithelium of the fungiform papillae after irradiation at the
microscopic level as well as the effect of grape seed oil (GSO) on these changes and the changes in the innervation
of these papillae. Thirty five male Swiss Albino rats were included in this study. The animals were divided into,
Grape seed irradiated group (GSI gp): GSO was administrated orally in accompanied with radiation. Irradiated
group (IR gp): The same protocol was applied to this group except that the animals received distilled water instead.
Control group(C gp): only distilled water was administrated orally. The right tongue halves were prepared for
Ultrastructural studies. The left halves were used for detection of the innervations using S100. Degeneration of the
cell nuclei and organelles in stratum basale and spinosum of the fungiform papillae in IR gp was obvious. In the GSI
gp the nuclei had prominent nucleoli and granulated chromatin. The regeneration of the epithelium in the IR gp was
delayed compared with GSI gp. Regeneration of the cytoskeleton was advanced in the GSI gp. Significant obvious
decrease in the innervations was indicated in the IR gp at the third day post irradiation compared with both GSI gp
and C gp. Toward the end of the experiment, increase in the innervations was more detectable in GSI gp. For these
reasons, grape seed oil is recommended to be consumed as a dietary supplement and could be useful in synergizing
the hazardous of radiation on the tongue papillae.

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